

## Lectures on Supersymmetry 4<sup>th</sup> and 7<sup>th</sup> of May 2012 Vrije Universiteit Brussel

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## "Naturalness, BEH mass and Supersymmetry"

The lectures will start with a review of the radiative corrections to the Brout-Englert-Higgs mass in the Standard Model and the resulting hierarchy problem. The minimal supersymmetric extension of the Standard Model (MSSM) will be introduced with a highlight on the analysis of the Brout-Englert-Higgs potential in this theory, including quantum corrections. Finally, at a moment where the collider experiments provide tantalizing results, the implication of a 125 GeV Brout-Englert-Higgs mass on supersymmetry will be discussed.

Location: Vrije Universiteit Brussel – Campus Oefenplein – 1.G.003 (1<sup>st</sup> level of building G, room 003; large seminar room of the IIHE) or "CMS centre @ IIHE" (0<sup>th</sup> level of building G; it will be indicated)

Lecture 1: The Brout-Englert-Higgs mass and the hierarchy problem (4<sup>th</sup> of May; 14-17h; 1.G.003)

Lecture 2: The MSSM and its Brout-Englert-Higgs sector (7<sup>th</sup> of May; 10-13h, CMS centre @ IIHE)

Lecture 3 : The implications of the collider results on supersymmetry ( $7^{th}$  of May; 14h-16h; CMS centre @ IIHE)